

REEL #35
VASIL'YEVA, O.A.

USSR

VASIL'YEVA, O. A., et al., Laboratornoye Delo, No 12, 1972, pp 730-732
those revaccinated at 8 and 15. In the control (nonvaccinated) group, the
INI varied from 0.02 to 0.08.

2/2

APPROVED FOR RELEASE

CIA-RDP86-00513R002203510001-7"

USSR

VASIL'YEVA, O. A., FRADKIN, V. A., and SHIPULINA, N. I., Tomsk Institute of
Vaccines and Sera and State Control Institute of Biomedical Preparations
imeni L. A. Tarasevich, Moscow

"Index of Neutrophil Injury as a Test of Sensitivity to Smallpox and Tick-
borne Encephalitis Vaccines"

Moscow, Laboratornoye Delo, No 12, 1972, pp 730-732

Abstract: The index of neutrophil injury (INI) (the criterion of injury is
the aneboid activity of the cells) is a promising method of detecting specific
sensitivity to smallpox and tickborne encephalitis vaccines. Aneboidism is
determined from the formula $\frac{H}{100}$, where 100 is the number of neutrophils
counted in each smear, H is the number of injured neutrophils in a specimen,
and H_1 is the same number in the control. The INI ranged from 0.07 to 0.30
and from 0.02 to 0.03 in rabbits inoculated with smallpox and tickborne
encephalitis vaccines, respectively, compared to 0.03 to 0.30 and 0.02 to 0.04
in the control. In children vaccinated with smallpox vaccine at age 1-2 and
revaccinated at 8 or 15, the average INI was 0.05 (maximum 0.12) in those
vaccinated for the first time, 0.16 (maximum 0.22) and 0.25 (maximum 0.3) in

UDC 612.017.1-06:614.47

USSR

VASIL'YEVA, O. A., AKSENIENKO, G. R., and SHIPULINA, N. I., Tomsk Institute of Vaccines and Sera, Tomsk Medical Institute

"Immunobiologic Reactivity of Man in Combined Vaccination"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 4, 1973, pp 109-115

Abstract: Studies were made of vaccine reactions in 845 subjects immunized with 7 different combinations of viral and bacterial vaccines, and of non-specific immune indexes in 140 persons similarly immunized. All subjects were 22-24 years old. The vaccines tested were commercial preparations of tick-borne encephalitis virus, smallpox virus, tularemia, typhoid-paratyphoid-tetanus (TABT), and a typhoid vaccine with tetratoxoid (botulinus types A, B, and E, and tetanus). The subjects were followed for 30 days. The most frequent vaccine reactions were encountered in subjects vaccinated with TABT (weak reactions in 42% of subjects and moderate in 10%), and with the typhoid-tetratoxoid combination (weak reactions in 25% of the subjects and moderate reactions in 12% of the subjects). Administration of these vaccines in combination with other vaccines did not alter the vaccine reactions. Complement levels were depressed in all subjects by day 7, and continued to fall by day 14 (with the exception

- 12 -

1/3

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USSR

VASIL'YEVA, O. A., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 4, 1973, pp 109-115

of TABT, whether given alone or in combination with other vaccines); by day 30 complement levels approached normal values. Most pronounced depression of complement levels was encountered in subjects immunized with the encephalitis vaccine and the typhoid-tetratoxoid combination, whether administered alone or in combination with other vaccines. Administration of the encephalitis vaccine and typhoid-tetratoxoid either alone or in combination with other preparations led to a 3-fold depression of serum lysozyme concentrations on days 7 and 14, with subsequent elevation of concentrations. Subjects immunized with the smallpox vaccine showed depressed lysozyme levels on day 14. TABT elicited a short-term elevation of serum lysozyme by day 7, and then a fall to normal levels after 2 to 4 weeks. Normal serum hemolysin levels were elevated in all subjects by day 7, depressed by day 14, and increased by day 30. The studies also showed that subcutaneous administrations of the vaccines decreased serum bactericidal activity, as determined on day 7, 5-6 fold; subsequently, bactericidal activity returned to normal levels and again fell sharply by day 30. The intracutaneous and superficial administration of the smallpox vaccine elicited a 3-fold decrease in serum bactericidal activity when measured on day 14, which remained at that level until the end of the month.

2/3

USSR

VASIL'YEVA, O. A., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 4, 1973, pp 109-115

The results indicate that there are dynamic changes in both innate and acquired immunity following immunization, and that subsequent immunizations should be postponed at least for a month or two. Furthermore, whether given in combination or singly, the vaccines were equally effective in evoking antibody formation.

- 13 -

3/3

USSR

UDC: 669.24:538.632

KONDORSKIY, YE. I., ~~VASTIL'YEVA, R. P.~~ and AKMURADOV, B., Moscow State University imeni M. V. Lomonosov

"The Ratio of Nernst-Ettingshausen and Hall's Anomalous Constant Effects in Nickel-Cobalt Alloys"

Sverdlovsk, Fizika metallov i metallovedeniye, Vol 33, No 1, Jan 72, pp 207-209

Abstract: Discussed are the results of measurements of the Hall and Nernst-Ettingshausen's (N.-E.) effects and resistivity for nickel-cobalt alloys at various temperatures. Involved is a series of nickel-cobalt alloys containing from 10 to 90% Co, as well as Co and Ni specimens. The nickel-cobalt alloys show various crystal structures depending on Co contents. Alloys containing up to 70% Co have a densely packed hexagonal crystal structure; alloys of lower cobalt concentrations have a face-centered cubic lattice. Both Hall and N.-E. emf and resistivity values were determined in vacuum (10^{-2} -- 10^{-3} mm Hg) on one and the same specimens at temperatures ranging from room to 500°C. A table presents the values of

1/2

CIRC ACCESSION NO

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USSR

KONDORSKIY, YE. I., et al, Fizika metallov i metallovedeniye, Vol 33, No 1, Jan 72, pp 207-209

parameters α , b , a , β and resistivity ρ for different crystal lattices of alloys. It appears that α/a T/ρ and $\frac{\beta}{b} \frac{T}{\rho}$ vary within limits predicted in earlier research. The experimental results support the validity of the theoretical formulas derived by other investigations and indicate, specifically, that the ratio $Q_i/R_s \frac{\rho}{T}$ (Hall and N.-E. emf values), respectively for most Ni-Co alloys are independent of temperature. There is a weak temperature dependence of this ratio for nickel and nickel-rich alloys. (1 illustration, 1 table, 9 bibliographic references).

2/2

- 43 -

1/2 020
TITLE--ELECTROOPTICAL SYSTEM OF COMPARING PULSED SOURCES OF LIGHT -U-
AUTHOR--(03)-VASILYEVA, R.V., DOBRYNIN, B.M., SHINGARKINA, V.A.
COUNTRY OF INFO--USSR
SOURCE--ZH. PRIKLAD. SPEKTRISK. (USSR), VOL. 12, NO. 1, P. 142-4 (JAN.
1970)
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--ELECTROOPTIC MEASURING EQUIPMENT, ELECTROOPTIC EFFECT, LIGHT
PULSE, PULSED ILLUMINATION, LIGHT MODULATOR
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/1729
SESSION NO--AP0122059
UNCLASSIFIED
PROCESSING DATE--27NOV70

2/2 020
CIRC ACCESSION NO--AP0122059
ABSTRACT/EXTRACT--(U) GP-0- UNCLASSIFIED
PROCESSING DATE--27NOV70
ABSTRACT. ELECTROOPTICAL LIGHT MODULATOR
OPERATING AS A RADIATION SWITCH IS DESCRIBED. THE MAIN ELEMENTS OF THE
DESIGN ARE TWO SYSTEMS OF CROSSED POLARIZERS AND A KERR CELL. THE
ELECTROOPTICAL LIGHT MODULATOR ALLOWS THE USE OF ONE RECEIVER FOR THE
SIMULTANEOUS RECORDING OF LIGHT FROM TWO PULSED SOURCES BY ANTIPHASE
MODULATION OF THEIR RADIATIONS.

UNCLASSIFIED

UDC 538.3:621.313.333:538.4

USSR

VASIL'YEV, S. V. and KOZLOV, A. I.

"Electromagnetic Phenomena in a Cylindrical Induction Pump"
Riga, Magnitnaya Gidrodinamika, No 4, Oct-Dec 72, pp 87-94

Abstract: The directional distribution of an electromagnetic field was investigated in the uniform space of a cylindrical inductor the linear current load of which is itself a wave traveling along a helical line. This device was designed for the transport of molten metals and uses ordinary round pipe as the channel. A solution of the electromagnetic field equations was obtained in the form of modified Bessel functions. A feature of the device consists of the three-dimensional magnetic field whereupon in the center of the space the working component differs from zero.

Expressions were obtained for currents induced in the molten metal and relationships found characterizing the distribution of electromagnetic forces and pressure divided by the pump. Expressions were derived for the output imparted to the molten metal. A characteristic feature of the given device in comparison with cylindrical linear induction pump without an inner core is the difference from zero of the longitudinal electromagnetic

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- 76 -

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USSR

VASIL'YEV, S. V., and KOZLOV, A. I., Magnitnaya Gidrodinamika, No 4, Oct-Dec 72, PP 87-94

force in the channel center. A numerical analysis of the obtained theoretical relation ships is presented from which the conclusion was made about the prospect of using pumps of this type. This work was conducted under the direction of N. M. Okhremenko. 6 figures, 8 bibliographic references.

2/2

UDC 577.15

USSR

KOMOLOVA, G. S., YERYGIN, G. D., VASIL'YEVA, T. B., and YEGOROV, I. A.,
Institute of Biochemistry imeni A. N. Bakh, Academy of Sciences USSR, Moscow

"Effect of a Constant Magnetic Field of High Intensity on the Enzymatic
Hydrolysis of Nucleic Acids"

Moscow, Doklady Akademii Nauk SSSR, Vol 204, No 4, 1972, pp 995-997

Abstract: DNA ($S \sim 25$) and RNA were subjected to the action of DNA-ase and RNA-ase respectively at 25°C for 1.5 hr under the effect of a magnetic field. The reaction mixtures were circulated continuously through a tube. The change in the enzyme activity due to the action of the magnetic field was determined spectrophotometrically on the basis of the increase of extinction in the acid-soluble fraction at $\lambda = 260$ mμ. The concentration of the enzyme at which the reaction began was 0.6 %/ml (enzyme - substrate ratio 1:5000) for RNA-ase and 3 %/ml for DNA-ase (enzyme - substrate ratio 1:50), respectively. In the experiments with DNA - DNA-ase, the activity of DNA-ase was increased as a result of the action of the magnetic field by 30, 16, and 0% at intensities of the magnetic field equal to 3.2×10^3 , 1.2×10^3 , and 0.8×10^3 Oe, respectively. The effect of the magnetic field can be ascribed to reorientation of DNA molecules. The activity of RNA-ase was not yet increased at 3.2×10^3 Oe. One may assume that much higher intensities of the magnetic

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USSR

KOMOLOVA, G. S., et al., Doklady Akademii Nauk SSSR, Vol 204, No 4, 1972,
PP 995-997

field will be required to exert an effect on the RNA - RNA-ase reaction.
(Submitted by Academician A. I. Oparin, 19 Jul 71).

2/2

- 7 -

1/2 011
TITLE--SEPARATION OF RIBONUCLEASE PHOTOLYSIS PRODUCTS BY A GEL FILTRATION
METHOD--U-
AUTHOR--(04)--KOMOLOVA, G.S., YEGOROV, I.A., VASILYEVA, T.B., MAKEYEVA, V.F.
COUNTRY OF INFO--USSR
SOURCE--DCKL. AKAD. NAUK SSSR 1970, 191(1)
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--RIBONUCLEASE, PHOTOLYSIS, CHEMICAL SEPARATION, GEL, FILTRATION
CENTREL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/1477
STEP NO--UR/0020/70/191/001/0228/0230
ATC 130406
UNCLASSIFIED

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PROCESSING DATE--20NOV70

UNCLASSIFIED

2/2 011
CIRC ACCESSION NO--ATO130406
ABSTRACT/EXTRACT--(U) GP-C- ABSTRACT. GEL FILTRATION ON A SEPHADEX G-100
COLUMN WAS USED TO SEP. THE FRACTIONS OF RIBONUCLEASE AFTER ILLUMINATION
WITH UV LIGHT. ILLUMINATION TO THE POINT OF 15PERCENT INACTIVATION
PRODUCED A SECONDARY PEAK ON THE CHROMATOGRAM IN WHICH THE ENZYMIC
ACTIVITY WAS TOTALLY LACKING. FURTHER INACTIVATION LED TO ENHANCEMENT
OF THIS PEAK, FOLLOWED BY DEVELOPMENT OF YET ANOTHER NEW PEAK WHICH HAS
SOME ENZYMIC ACTIVITY. EVIDENTLY IN THE EARLY STAGE OF ILLUMINATION AN
SS BOND IS RUPTURED AND FURTHER DENATURATIONAL CHANGES IN THE ENZYME ARE
NOT ACCOMPANIED BY BREAKS OF OTHER SS BRIDGES. THE TOTAL SH CONTENTS IN
NATURAL AND ILLUMINATED SPECIMENTS PROVED TO BE EQUAL. THE LOSS OF
ACTIVITY CANNOT BE ASCRIBED TO DENATURATION PER SE OF ALL ENZYME MOLS.
BUT ONLY OF SPECIFIC PARTS OF THESE.
IM. BAKHA, MOSCOW, USSR.

FACILITY: INST. BIOKHM.

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UDC 615.372:576.851.49].07

USSR

SHAPIRO, N. I., VASIL'YEVA, T. G., MOSKVICHEVA, I. V., DUDKINA, M. I.,
KRUGLIKHINA, Z. M., SAZONETS, G. I., OZERETSKOVSKIY, N. A., BALAYAN, V. D.,
and KOVAL'SKAYA, S. Ya., Leningrad Institute of Vaccines and Sera and State
Control Institute of Medical Biological Preparations imeni Tarasevich, Moscow

"Molecular Heterogeneity of Endotoxins Extracted From the Typhoid-Paratyphoid
Group of Bacilli. Report II. Antigenic Structure and Biological Activity of
High and Low-Molecular-Weight Fractions"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 11, 1971,
pp 35-39

Abstract: By means of sepharose 2B columns, endotoxin extracts from typhoid
(4446) and paratyphoid B (50602) bacilli can be separated into a high-molecular-
weight and a low-molecular-weight fraction. Components of the latter fraction
retain some serological specificity but are nontoxic, exert a low protective
activity, and display no stressor activity. On the other hand, components of
the high-molecular-weight fraction have a full antigenic structure, are highly
immunogenic and toxic, and display pronounced stressor activity. The high-
molecular-weight fraction is the carrier of the biological properties of
typhoid and paratyphoid endotoxins.

- 29 -

USSR

UDC 576.851.49:576.809.7:541.24
VASIL'YEVA, T. G., SAZONETS, G. I., and SHAPIRO, N. I., Leningrad Institute
of Vaccines and Sera

"Characteristics of the Molecular Weights of the Highly Active Large-
Molecular Component of Salmonella paratyphi B Endotoxins According to Light
Diffusion and Electron-Microscopy Data"

Moscow, Doklady Akademii Nauk SSSR, Vol 211, No 3, 1973, pp 711-713

Abstract: Salmonella paratyphi B endotoxins can be separated into fractions
differing markedly from one another in molecular weight, chemical composition,
and biological activity. The first and largest-molecule fraction possesses
the greatest biological activity (antigenicity, immunogenicity, toxicity,
stressor action). This fraction is more active than even the original endo-
toxin. Electron-microscopic study of the fraction revealed the presence of
two types of particles: (a) 140 X 250 Å - 500 X 650 Å and (b) 240 X 780 Å -
340 X 1200 Å. The authors regard them as fragments of the microbial cell
membrane.

UDC 615.372:576.851.49].011.4

USSR

SHAPIRO, N. I., ~~VASIL'YEVA, T. G.~~ MOSKVICHEVA, I. V., SAZONETS, G. I., and
REPINA, G. V., Leningrad Institute of Vaccines and Sera

"Molecular Heterogeneity of Endotoxins of Typhoid and Paratyphoid Bacteria.
I. A Method of Fractionation and Some Physicochemical Properties of the
Resulting Fractions"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1971,
pp 55-59

Abstract: Preparations of *S. typhi* (4446) and *S. paratyphi* B (50602) endo-
toxins obtained by different methods of chemical disintegration of stab
cultures were fractionated by gel filtration on columns of sepharose 2 B
and 4 B. The optical density (at $\lambda=260$ and 280 m μ), carbohydrate and
protein contents were determined in successive samples. The original
preparations were found to be heterogeneous in molecular weight and chemi-
cal composition. A large protein-polysaccharide fraction with a molecular
weight of about 9×10^6 and a polydisperse low-molecular fraction were
isolated from all the preparations. Besides proteins and carbohydrates,
the second fraction contained nucleic acids not present in the first
fraction.

1/1

- 6 -

1/1

UDC 669.721:669.794:539.434

USSR

TIKHONOVA, N. M., SOLOV'YEVA, G. G., BLOKHINA, V. A., ANTIPOVA, A. P., VASIL'YEVA, T. P.

"Problem of the Theory of Alloying Magnesium with Rare Earth Metals and Yttrium"

V sb. Redkozemel'n. met i splavy (Rare Earth Metals and Alloys -- collection of works), Moscow, Nauka Press, 1971, pp 99-103 (from RZh-Metallurgiya, No 4, Apr 72, Abstract No 41656)

Translation: A study was made of the causes of the positive effect of rare earth metals and yttrium on the high-temperature strength of Mg in comparison with alloys of the Mg-Al system. A photograph of the microstructures of the alloys as a function of composition and heat treatment conditions is included, and tables are given for mechanical properties, known alloys, and a new experimental alloy with yttrium. 2 illustrations and 2 tables.

1/1

- 24 -

USSR

UDC 621.785.784:669.721

TIKHOVA, N. M., BLOKHINA, V. A., ANTIPOVA, A. P., ~~VASIL'YEVA, T. P.~~, SOLOV'YEVA, G. G., All-Union Scientific Research Institute of Aviation Materials

"Effect of Prolonged Heating on Properties of the ML9 and ML10 Magnesium Alloys"

Moscow, Metallovedeniye, No 10, 1971, pp 73-76

Abstract: A study was made of the effect of prolonged heating, 0.5-30,000 hours, at 125-300°C, on the microstructure and mechanical properties of ML9 and ML10 heat-resistant cast magnesium alloys, developed on the base of the system Mg-Nd-Zr for continuous working at up to 250 and 300°C, respectively. The chemical compositions of the ML9 and ML10 alloys, their industrial heat treatment, and their mechanical properties in comparison with the widely used ML5 alloy are shown. The change of mechanical properties at temperatures up to 300°C is discussed. The structure and mechanical properties of the ML10 alloy, after heating at 200°C over periods of 1000 and 2500 hours are the same.

1/2

USSR.

TIKHOVA, N. M., et al, Metallovedeniye, No 10, 1971, pp 73-76
At higher temperatures (2500C), an intensive decomposition of grains of the solid solution occurs. A microstructural change of the ML9 alloy after heating over a period of 1000 hours at 2000C and 10 hours at 2500C was not observed. Heating at 3000C changed its microstructure substantially. 3 illustrations, 6 tables, 1 bibliographic reference

2/2

- 23 -

1/2 010
TITLE--BUILDING PAINTS BASED ON MIXTURES OF AQUEOUS SOLUTIONS AND
DISPERSIONS OF FILM FORMING MATERIALS -U-
AUTHOR--(03)-OKHRIMENKO, I.S., VASILYEVA, T.P., VERKHOLANTSEV, V.V.
COUNTRY OF INFO--USSR
SOURCE--LAKOKRASOCH. MATER. IKH PRIMEN. 1970, (2), 13-14
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--CONSTRUCTION MATERIAL, PAINT, STYRENE, LATEX, POLYVINYL
ACETATE/(U)SKS30 STYRENE RUBBER, (U)SKS65GP STYRENE RUBBER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605019/B10 STEP NO---UR/0303/70/000/002/0013/0016
NO--AP0140908
UNCLASSIFIED

2/2 010
GIRC ACCESSION NO--AP0140908
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WATER SOL. PAINT FORMULATIONS
(DESIGNED FOR THE CONSTRUCTION INDUSTRY) WERE DEVELOPED FROM SKS-30 AND
SKS-65 GP LATEXES. THE ADVANTAGES OF THE PAINTS WERE NOTED. THE
PROPERTIES OF FILMS FORMED FROM AQ. SOLNS. OF PARTIALLY HYDROLYZED
POLY(VINYL ACETATE) AND OTHER POLYMER LATEX BLENDS WERE DISCUSSED.

PROCESSING DATE--04DEC70

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1/2 012
TITLE--PROTON MAGNETIC RESONANCE OF DIVINYLMETHANE AND VINYLALLYLMETHANE
DERIVATIVES -U-
AUTHOR-(02)-VASILYEVA, T.T., FEDIN, E.I.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (1), 22-5
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PROTON, MAGNETIC RESONANCE, VINYL COMPOUND, METHANE,
METHYLENE, HYDROXYL RADICAL, CHLORINZATED ORGANIC COMPOUND,
ORGANIC SULFUR COMPOUND, NMR SPECTRUM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1984/1620
ACCESSION NO--AP0100230
UNCLASSIFIED

PROCESSING DATE--18SEP70

UNCLASSIFIED

2/2 012
CIRC ACCESSION NO--AP0100230
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NMR SPECTRA WERE REPORTED IN
DETAIL FOR CH SUB2:CHCH:CH SUB2 WHERE R EQUALS CH:CH SUB2, CH SUB2 CH
SUB2 OH, CH SUB2 CH SUB2 CL, CH SUB2 CH SUB2 SPH; CH SUB2:CHCH
SUB2NEGATIVE CHCH:CH SUB2 WHERE R EQUALS CH SUB2 OH, CH SUB2 CL, CH
SUB2 SPH, OR CO SUB2 H. THE NMR SIGNALS USEFUL FOR SPECIFIC
IDENTIFICATION AND DETN. OF SUCH COMPOS. IN A MIXT. ARE DISCUSSED.
THE ALLYLIC METHYLENE GROUP SIGNAL IS VERY USEFUL, MAKING POSSIBLE ITS
DETECTION IN 1-2PERCENT AMTS. IN MIXTS.

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--HOMOLYTIC ADDITION OF THIOPHENOL TO TRIVINYLMETHANE AND RELATED
COMPOUNDS -U-
AUTHOR--VASILYEVA, T.T., FEDIN, E.I., FREDLLINA, R.KH. ✓
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (1), 100-6
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--THERMAL DEGRADATION, THIOL, PHENOL, NUCLEAR MAGNETIC
RESONANCE, VINYL BENZENE, CHLORINATED ORGANIC COMPOUND, CYCLOPROPANE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/1071 STEP NO--UR/0052/70/000/001/0100/0106
CIRC ACCESSION NO--AP0104469
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--11SEP70

2/2 010

CIRC ACCESSION NO--AP0104469

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HEATING 0.94 G HC(CH:CH SUB2) SUB3 WITH 1.1 G PHSH AND 5 MOLE PERCENT BZ SUB2 O SUB2 10 HR AT 80DEGREES IN A SEALED TUBE GAVE 73PERCENT 5,PHENYLTHIO,3,VINYL,1,PENTENE (I), B SUB2 104DEGREES, N PRIME2 SUBDDEGREES 1.5541, D PRIME20 0.9864, PH SUB2 S SUB2, AND STARTING MATERIALS; NMR EXAMN. SHOWED THE PRESENCE OF SOME CYCLOPROPANE DERIVS. I AND PHSH UNDER THESE CONDITIONS IN 10 HR GAVE 30PERCENT CH SUB2:CH SUB2 CH SUB2 SPH SUB2 B SUB1 188DEGREES, 1.6030, 1.0928. 5,CHLORO,3,VINYL,1,PENTENE AND PHSH SIMILARLY TREATED GAVE 60PERCENT CH SUB2:CH SUB2 CH SUB2 CL CH SUB2 CH SUB2 SPH, B SUB2 130DEGREES, 1.5653, 1.0944. 1,CHLORO,3,VINYL, 5,PHENYLTHIOPENTANE AND PHSNA IN ETOH 1 HR AT 70DEGREES GAVE 82PERCENT 3,VINYL,1,5,BIS (PHENYLTHIO)PENTANE, B SUB2 207DEGREES, 1.6037, 1.0917. ALSO REPORTED WERE (CH SUB2:CH) SUB2 CHCH SUB2 CH SUB2 CL, B SUB60 66DEGREES, 1.4525, 0.9167, CH SUB2:CHCH SUB2 CHCH SUB2 CH) CH:CH SUB2 B SUB11 59DEGREES, 1.4560, 0.8655; CH SUB2:CHCH SUB2 CHCH SUB2 CL)CH:CH SUB2 B SUB74 76DEGREES, 1.4549, 0.9223; CH SUB2:CHCH SUB2 CH(CH:CH SUB2)CH SUB2 SPH, B SUB1 90DEGREES, 1.5570, 0.9916.

UNCLASSIFIED

UDC 547.12'8-661.718.1

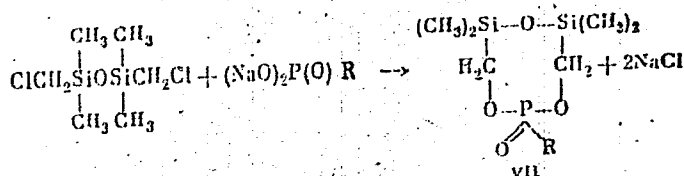
USSR

ANDRIANOV, K. A., VASIL'YEVA, T. V., and FOMINYKH, YE. S.

"The Condensation of Disodium Alkylphosphonates With 1,3-Dichloromethyltetramethyldisiloxanes and Dichlorodiphenylsilanes"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 4, 1972, pp 850-854

Abstract: The reaction of disodium salts of alkyl phosphonic acids with organosilicon compounds containing either a chlorinated aliphatic radical or a chlorine bonded directly to the silicon was studied. The two types reactions are as follows:



UDC 547.1'28+661.718.1

USSR

ANDRIANOV, K. A., VASIL'YEVA, T. V., and DEMYKINA, T. K., Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosov

"Condensation of Alkyltriethoxysilanes with Hexylphosphinic Acid"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 7, Jul 70, pp 1565-1568

Abstract: The authors studied reactions of the heterofunctional condensation of alkyltriethoxysilanes with hexylphosphinic acid and its acid dichloride. It was found that the yields of the cyclic and polymeric reaction products depend on the size of the radicals at silicon.

1/1

USSR

UDC 621.525

VASIL'YEVA, V. D., PATEPALOV, YU. N., and SUVAOROVA, S. V., Central Scientific Research Institute for Complex Automation

"A Pneumatic Zone Indicator Device"

USSR Author's Certificate No 372560 kl G 06 g/500, filed 30 Dec 70, published 27 Apr 73 (from RZh-Avtomatika Telemekhanika i Vychislitel'naya Tekhnika, No 11, Nov 73, Abstract No 11 A 388P)

Translation: The authors propose a pneumatic zone-indicating apparatus containing single-membrane comparison elements, the blind chamber of the first of which is connected to the first input channel of the device, while the flow-through chamber is connected to the second input channel; an amplifier based on a single-membrane element whose blind chamber is connected through a choke to the atmosphere and to the nozzle of the second comparison element. The nozzle is connected to the output channel of the device and through a choke to the supply source.

To extend the functional capabilities of the apparatus, the blind chamber of the second comparison element is connected with the nozzle of the first comparison element and through a choke to the third input channel, while the flow-through chamber is connected to the second input channel of the device. One illustration.

1/1

USSR

UDC 615.281.221.1:547.547.831.6

VASIL'YEVA, V. F., ZAGRUTDINOVA, R. A., SHCHUKINA, M. N., PERSHIN, G. N.,
and ZYKOVA, T. N., All Union Scientific Chemical-Pharmaceutical Research
Institute imeni S. Ordzhonikidze, Moscow

"Synthesis and Biological Properties of 6-Arylazo Derivatives of Substituted
1,2,3,4-Tetrahydroquinoline"

Moscow, Khimiko-Farmatsevticheskii Zhurnal, Vol 7, No 9, Sep 73, pp 19-21

Abstract: A series of arylazo derivatives of 1,2,3,4-tetrahydroquinoline was
synthesized: 1-alkyl- (from C_1 to C_4) and 1-benzyl-1,2,3,4-tetrahydroquino-
lines were obtained by reduction of 1-substituted quinolinium iodides or bro-
mides with formic acid; reduction of 2-benzylquinoline with metallic sodium
in butanol gave the respective tetrahydroderivative (I), which condensed with
N,N-dimethylaminopropyl chloride gave 1-(N,N-dimethylaminopropyl)-2-benzyl-
1,2,3,4-tetrahydroquinoline; (I) also yielded 1-benzoyl-2-benzyl-1,2,3,4-
tetrahydroquinoline. All of these compounds were diazotized with phenyl-
diazonium, p-chlorophenyldiazonium, and p-nitrophenyldiazonium salts to yield
the respective 6-arylazo derivatives. Subjected to the assay against the
tuberculin bacillus $H_{37}Rv$, three derivatives showed pronounced tuberculo-

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- 70 -

USSR

VASIL'YEVA, V. F., et al., Khimiko-Farmatsevticheskiy Zhurnal, Vol 7, No 9,
Sep 73, pp 19-21

static activity: 6-phenylazo-2-benzyl-1,2,3,4-tetrahydroquinoline; 6-phenyl-
azo-1-(γ -dimethylaminopropyl)-2-benzyl-1,2,3,4-tetrahydroquinoline
hydrochloride, and 6-(p-nitrophenylazo)-1-(γ -dimethylaminopropyl)-2-
benzyl-1,2,3,4-tetrahydroquinoline.

2/2

1/2 028 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--THE EFFECT OF ADRENALINE ON SODIUM REABSORPTION IN THE KIDNEYS OF
FROGS AND HENS -U-
AUTHOR--(03)-BARANOVBARANOVSKIY, S.P., VASILYEVA, V.F., VOROBYEVA, K.P.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL EVOLYUTSIONNOY BIOKHIMII I FIZIOLOGII, 1970, VOL 6, NR 1,
PP 42-49
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ADRENALINE, SODIUM, KIDNEY, FROG, BIRD, CATECHOLAMINE,
NORADRENALIN, METABOLISM, HEMODYNAMICS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3005/0348
STEP NO--UR/0385/70/006/001/0042/0049
CIRC ACCESSION NO--AP0132583
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--13NOV70

2/2 028

CIRC ACCESSION NO--AP0132583
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE EFFECT OF CATECHOLAMINES ON SODIUM REABSORPTION HAS BEEN STUDIED IN HENS AND FROGS (ANA TEMPORARIA). THEIR RENAL TUBULI ARE SUPPLIED BY BLOOD VIA TWO SYSTEMS OF CIRCULATION: THE ARTERIAL AND RENAL PORTAL ONES. THIS FACT ENABLES TO CREATE HIGHER CONCENTRATION OF AGENTS IN PERITUBULAR CAPILLARIES AT THE SIDE OF INJECTION AS COMPARED TO RENAL GLOMERULI. INJECTIONS OF THE ADRENALINE (0.1-5 MUG PER KG) IN HENS INTO RENAL PORTAL VEIN (VIA FEMORAL VEIN) DECREASED THE EXCRETED FRACTION OF SODIUM IN ABSENCE OF A SIGNIFICANT EFFECT UPON THE GLOMERULAR FILTRATION RATE. THIS EFFECT WAS BILATERAL AND ATTAINED ITS MAXIMUM EFFICIENCY 20-40 MIN. AFTER INJECTION. TREATMENT BY TOLAZOLIN (AN ADRENOLYTIC BLOCKING VASCULAR REACTION TO ADRENALINE) DOES NOT PREVENT STIMULATION OF SODIUM REABSORPTION. IN FROGS, BOTH THE ADRENALINE AND NORADRENALINE (1 MUG PER KG BODY WEIGHT) SIGNIFICANTLY DECREASED THE DIURESIS AND FILTRATION, BUT DID NOT SIGNIFICANTLY AFFECT SODIUM REABSORPTION. THE DATA OBTAINED SUGGEST THAT STIMULATORY EFFECT OF THE ADRENALINE ON SODIUM REABSORPTION IS NOT ASSOCIATED WITH CHANGES IN HAEMODYNAMICS, BUT RESULTS FROM THE INFLUENCE OF THE ADRENALINE ON THE METABOLISM OF TUBULAR CELLS.
FACILITY: INSTITUTE OF EVOLUTIONARY PHYSIOLOGY AND BIOCHEMISTRY, USSR ACADEMY OF SCIENCES, LENINGRAD.

UNCLASSIFIED

UDC 911.3:616.9(477)

USSR

KRIVOSHEVN, Yu. S., ~~VASILYEVA V. I.~~, LOZINSKAYA, T. M., RYBAKOVA, I. I.,
BAKULINA, E. V., and BORSHCHOVA, G. N.

"Complement-Fixing Antibodies in Healthy Human Serum to Mycoplasma --
Pneumonia and Acute Respiratory Infections"

Sb. tr. Krym. med. in-t (Works of the Crimean Medical Institute -- collection
of works), 1970, 41, pp 122-125 (from RZh-Meditsinskaya Geografiya, No 4,
Apr 71, Abstract No 4.36.196)

Translation: Serological investigation of 868 healthy humans in various
rayons of Krymskaya Oblast showed that the agent of mycoplasma pneumonia
infected 13.3% of the city dwellers studied, 39.2% of country dwellers in
the northern part of the Crimea, and 19.7% in the southern part. The in-
fluenza virus Hong Kong A₂ more frequently infected city dwellers, and
influenza virus B -- rural inhabitants. In the partially isolated col-
lective, formed a year prior to the study, the prevailing mycoplasma agents
were pneumonia, Singapore A₂ influenza, type II adenovirus, and respiratory-
syncytial virus. Two years prior to the research, Hong Kong A₂ influenza
virus and type III parainfluenza predominated. Adults had significantly
higher numbers of infections from mycoplasma -- pneumonia, Hong Kong A₂

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USSR

KRIVOSHEVN, Yu. S., et al., Sb. tr. Krym. med. in-t (Works of the Crimean Medical Institute -- collection of works), 1970, 41, pp 122-125 (from RZh-Meditsinskaya Geografiya, No 4, Apr 71, Abstract No 4.36.196)

influenza type and B influenza; and children -- more infection with para-influenza viruses type I and II.

2/2

- 57 -

Acc. Nr: **AP0051932**

Ref. Code: **UR 0219**

PRIMARY SOURCE: Byulleten' Eksperimental'noy Biologii i
Meditsiny, 1970, Vol **69**, Nr **2**, pp **85-87**

DAILY RHYTHM OF THE MITOTIC ACTIVITY OF CELLS IN THE MOUSE
LEUKEMIC SPLEEN AND CYCLOPHOSPHANE ACTION ON IT

V. I. Vasilev

2nd Moscow State Medical Institute

Daily rhythm of the mitotic activity in leukemic cells of the mouse spleen was studied on the 7th day after transplantation of leukemia La. The highest mitotic activity was found between 10 a.m. and 7 p.m. (maximum 15.9 per cent at 7 p.m.) and the lowest — between 10 p.m. and 4 a.m. (minimum 10.8 per cent at 4 a.m.). The mean daily mitotic activity was found to be 13.1 per cent. Intraperitoneal administration on the 6—7th day of cyclophosphane at a dose of 100 mg/kg both at 10 p.m. and at 10 a.m. reduced the mitotic index to 4.6 and 5.1 per cent, respectively. The strongest inhibitory effect was demonstrated 6—15 hrs after administration of the cyclophosphane.

REEL/FRA
19820415

1/2 022 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--NEW METHOD FOR SYNTHESIZING THIENO(3,2,B)PYRROLE DERIVATIVES -U-
AUTHOR--(03)-SHVEDOV, V.I., GRINEV, A.N., VASILYEVA, V.K.
COUNTRY OF INFO--USSR
SOURCE--KHIM. GETEROTSIKL. SOEDIN. 1970, (2), 276-7
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--CHEMICAL SYNTHESIS, BIOMEDICAL R AND D, PYRROLES, THIOPHENE,
MOLECULAR STRUCTURE, UV SPECTRUM, IR SPECTRUM, EPR SPECTRUM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1983/1194 STEP NO--UR/0409/70/000/002/0276/0277
CIRC ACCESSION NO--AP0054093
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--09OCT70

2/2 022
CIRC. ACCESSION NO--AP0054093

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN A SEARCH FOR NEW BIOL. ACTIVE SUBSTANCES, THE TITLE COMPOS. WERE PREPD. BY HEATING E.G. A, ANILINDACETOPHENONE WITH 3, AMINO, 4, (CARBETHOXY), 5, METHYLTHIOPHENE TO 140-60DEGREES FOR 10 MIN. ESTERS OF THIENO(3,2,B)PYRROLE, 3, CARBOXYLIC ACID (1) ARE FORMED IN 54-7PERCENT YIELDS. THE STRUCTURE OF THE PREPD. SUBSTANCES WAS CHECKED BY UN., IR., AND EPR SPECTROSCOPY. THUS WERE PREPD. I (R, R PRIME2, R PRIME2, AND DECOMP. TEMP. GIVEN): ET, PH, ME, 81-2DEGREES; H, PH, ME, 256-80DEGREES; H, PH, H, 270-30DEGREES; H, RHO, MEC SUB6 H SUB4, H, 250-2DEGREES; H, RHO, GLC SUB6 H SUB4, 270-10DEGREES.

UNCLASSIFIED

1/2 006 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--COMPLEXING OF CHROMIUM (III) WITH GLYCEROL IN AN ALKALINE MEDIUM
-U-
AUTHOR--(02)-VASILYEVA, V.N., VASILYEV, V.P. ✓
COUNTRY OF INFO--USSR
SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(1), 21-4
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CHROMIUM COMPLEX, GLYCEROL, SODIUM HYDROXIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1995/1570 STEP NO--UR/0153/70/013/001/0021/0024
CIRC ACCESSION NO--AT0116978
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/2 006

CIRC ACCESSION NO--AT0116978

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT, IN M NAOH SOLNS. THE ABSORBANCE OF
0.025M CR(III) AT 580-600 NM IS 24.0 PLUS OR MINUS 0.4, AND IN M NAOH 2M
GLYCEROL THE ABSORBANCE BECOMES 36.0-37.4 PLUS OR MINUS 1.1 IN THIS
RANGE. IT IS ESTABLISHED THAT A COMPLEX (CR(OH)SU84.L) PRIME NEGATIVE IS
FORMED IN 2 STEPS, WHERE L IS GLYCEROL. FACILITY: IVANOV. KHIM.
TEKHNOL. INST., IVANOVO, USSR.

UNCLASSIFIED

USSR

UDC 62-525 : 681.3-182

VASIL'YEVA, V. V., POTEPALOV, YU. N., and SUVOROVA, S. V., National All-Union
Central Scientific Research Institute of Integrated Automation

"Pneumatic Logic Unit"

USSR Authors' Certificate No 337774, Cl. G 06d 1/04, filed 22 Jun 70, published 5 May 72 (from Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 15, 5 May 72, p 177)

Abstract: The device contains one output and two input channels; one output and two input single-membrane elements with a closed and a flow-through chamber in each; a throttle for discharge into the atmosphere, connected to the closed chamber of the output element; and a feed throttle connected to the output channel of the unit and the spring-actuated flow-through chamber of the output element. It is unique in that, in order to simplify the design, the input channels are cross-connected to the flow-through chamber of one input element and the spring-actuated closed chamber of the other input element, and the nozzles of the flow-through chambers of the input elements are connected to the closed chamber of the output element.

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-5 -

USSR

UDC 591.863:612.014.43

VASIL'YEVA, V. V., Laboratory of Motor Activity, Institute of Evolutionary Physiology and Biochemistry, Academy of Sciences USSR

"Comparative Studies on the Thermostability of Muscle Fibers and Their Fibrils"

Leningrad, Tsitologiya, No 1, 1970, pp 59-63

Abstract: In Ringer's solution heated to 36° C, fast fibers from the frog *m. ilcofibularis* retained their ability to contract in response to direct electric stimulation for 51 min. At 37, 38 and 39° C, the time decreased to 27, 15, and 9 min, respectively. In contrast, slow fibers retained their contractility after heating to 37° C for 115 min, to 38° C for 47 min, and to 39° C for 26 min. Thus, the slow fibers were more thermostable in the temperature interval studied. The respective fibrils behaved in a similar fashion. After immersion in heated Ringer's solution (38° C), fibrils from the fast fibers retained their contractility for 181 min, whereas myofibrils from the slow fibers did so for 218 min. The difference in thermostability of both the fibers themselves and the fibrils is ascribed to differences in the structure of the protein components of the two types of fibers.

- 62 -

USSR

UDC: 621.371:621.3.088.2

SHUBARIN, Yu. V., VASIL'YEVA, Ye. A.

"Investigation of Errors in Measuring the Polarization Parameters of Radio Waves"

Radiotekhnika. Resp. mezhved. temat. nauch.-tekhn. sb. (Radio Engineering. Republic Thematic Interdepartmental Scientific and Technical Collection), 1971, vyp. 17, pp 61-68 (from RZh-Radiotekhnika, No 3, Mar 72, Abstract No 3A362)

Translation: Formulas are derived for evaluating the errors of measurement of the semiaxis ratio and the orientation of the semimajor axis of a polarization ellipse by one- and two-antenna methods with circular polarization, and by a two-antenna method with circular polarization [sic]. Graphs of the errors are constructed for these methods and a comparative evaluation is made. Eight illustrations, bibliography of six titles. Resumé.

1/1

UDC 612.58

USSR

VASIL'YEVA, Ye. D., Division of Ecological Physiology, Institute of Cytology and Genetics, Siberian Department of the Academy of Sciences USSR, Novosibirsk

"Choline Metabolism in Rats Under the Effect of Low Temperatures"

Leningrad, Fiziologicheskii Zhurnal SSSR imeni I. M. Sechenova, Vol 58, No 1, Jan 72, pp 125-128

Abstract: The content of free choline and of phospholipids was determined in the liver and thigh muscle of rats that had been kept for 48 hrs at 2-3°C and also of control rats that had been kept at 20-22°C. Under the effect of exposure to the low temperature, a sharp increase in the content of free choline took place in the tissues of the liver and the thigh muscle, while the content of phospholipids remained unchanged. This indicated a possible key role of choline in processes involved in the so-called lipotropic action of cold. However, the manner in which choline participates in these processes is not known.

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Acc. Nr: **AF0034720**

Ref. Code: UR 0241

PRIMARY SOURCE: Meditsinskaya Radiologiya, 1970, Vol 15,
Nr 2, pp 17-23

THE STATE OF PERIPHERAL CIRCULATION IN RADIUM THERAPY

Vasil'eva, Ye. I.; Sheshina, G. A.

Summary

The state of the peripheral circulation in radium therapy was studied in 83 patients with malignant neoplasms, in 59 of them the heart was within the zone of irradiation. It was found that in irradiation of the region of the heart and remote areas of the body there occur hemodynamic shifts characterized by alteration of the arterial pressure, elasticity of arterial vessels, modules of resistance, systolic and minute blood volume and peripheral resistance. In a number of cases hemodynamic indices, prevalently their decline, as the result of which the state of circulation was maintained on an average level. However, the adaptation reaction was not always noted, as the result of which there was a disturbed concordance in the work of the heart and vessels. There were found signs of myocardial dystrophy and disorder of coronary circulation, thus deteriorating the state of the hemodynamics. Disorder of the peripheral circulation in radium therapy should be considered not only from the viewpoint of vascular insufficiency. Apparently, of paramount importance is disturbance of the neurohumoral apparatus regulating the circulation.

REEL/FRAME

19711426

02

02

1/2 022 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--IMPORTANCE OF THE ALIMENTARY PROTEIN FOR EXTERNAL SECRETION OF THE
LIVER IN DERANGED HEPATO INTESTINAL CIRCULATION -U-
AUTHOR--(02)-VASILYEVA, YE.N., VASILEVSKAYA, L.S.
COUNTRY OF INFO--USSR
SOURCE--VOPROSY PITANIYA, 1970, NR 2, PP 26-31
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--PROTEIN, SECRETION, LIVER, BILE, RAT, SMALL INTESTINE, DIET,
LIPID, PHOSPHORUS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1985/1480 STEP NO--UR/0244/70/000/002/0026/0031
CIRC ACCESSION NO--AP0101566
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0101566

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF AN ELEVATED PROTEIN LEVEL IN THE DIET UPON THE SECRETION OF BASIC BILE COMPONENTS IN RATS WITH RESECTED PROXIMAL OR DISTAL HALF OF THE SMALL INTESTINE WAS STUDIED. IT IS SHOWN THAT ONE MONTH AFTER RESECTION OF THE INTESTINE IN ANIMALS WHOSE RATION CONTAINED 30PERCENT OF PROTEIN THE LIPIOS COMPLEX, CHOLIC ACID AND TOTAL PHOSPHORUS WERE SECRETED INTO THE BILE IN A HIGHER CONCENTRATION THAN THIS WAS THE CASE IN ANIMALS RECEIVING A RATION WITH 20PERCENT OF PROTEIN. SUCH A POSITIVE EFFECT OF PROTEIN IS ESPECIALLY MARKED IN THE EVENT OF LOW INITIAL LEVEL OF SECRETION, OBSERVED AFTER RESECTION OF THE DISTAL PART OF THE SMALL INTESTINE. SUBJECT TO INVESTIGATION WAS ALSO DIGESTION OF FAT WITH DIFFERENT DEGREES OF DISTURBED HEPATO-INTESTINAL CIRCULATION OF THE BILE COMPONENTS. THE RESULTS OBTAINED BEAR OUT THAT AN INCREASE IN THE AMOUNT OF PROTEIN IN THE FOOD FAVOURS RESTORATION OF THE EXTERNAL SECRETORY FUNCTION OF THE LIVER DERANGED AFTER RESECTION OF THE SMALL INTESTINE.

UNCLASSIFIED

1/2 023
UNCLASSIFIED
TITLE--THE EMPLOYMENT OF NEUROLEPTANALGESIA IN EMERGENCY SURGERY -U-
PROCESSING DATE--30OCT70
AUTHOR--(02)--NUTRIKHIN, N.A., VASILYEVA, YE.P.
COUNTRY OF INFO--USSR
SOURCE--KHIRURGIYA, 1970, NR 6, PP 100-103
DATE PUBLISHED--70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ANESTHESIA, ANALGESIC DRUG, SURGERY, INJURY, HEMORRHAGE,
INTESTINAL OBSTRUCTION, PERITONEUM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3001/1957
STEP NO--UR/0531/70/000/006/0100/0103
CIRC ACCESSION NO--AP0127358
UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0127358

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE AUTHORS REPORT ON THE USE OF NEUROLEPTANALGESIA IN 80 PATIENTS SUBJECTED TO EMERGENCY OPERATIONS FOR SEVERE INJURIES, MASSIVE GASTRIC HEMORRHAGES, INTESTINAL OBSTRUCTION, SUPPURATIVE PERITONITIS. GALOPERIDOL AND PROMEDOL IN COMBINATION WITH NITROUS OXIDE WERE USED FOR NEUROLEPTANALGESIA. THE ABOVE MENTIONED TECHNIQUE IS CONSIDERED AS ACCESSIBLE AND SAFE IN EMERGENCY SURGERY.

FACILITY: KLINIKA GOSPITAL'NOY KHIRURGII ARKHANGEL'SKOGO MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

172 029
TITLE--RNA SYNTHESIS IN RAT LIVER AND SPLEEN IN THE EARLY STAGES OF ACUTE
RADIATION INJURY -U-
AUTHOR--(04)--PASKEVICH, I.F., VASILYEVA, YE.S., TODOROV, I.N., SHANTYR,
V.I.
COUNTRY OF INFO--USSR
SOURCE--RADIOBIOLOGIYA 1970, 10(1), 19-24
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--X RAY RADIATION BIOLOGIC EFFECT, RADIATION DOSAGE, RAT, RNA,
LIVER, SPLEEN, PHOSPHORUS ISOTOPE, CHEMICAL LABELLING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1998/0452
CIRC ACCESSION NO--AP0121126
STEP NO--UR/0205/70/010/001/0019/0024
UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121126

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. RNA SYNTHESIS IN RAT LIVER AND SPLEEN WAS DETD. 2, 12, AND 24 HR AFTER WHOLE BODY X IRRADN. WITH A DOSE OF 800 R (197 KV, 10 MA, FILTER 0.5 MM CU PLUS 1 MM AL, FOCUS DISTANCE 40 CM, DOSE RATE 26.5 R-MIN). NA SUB2 H PRIME32 PO SUB4 WAS INJECTED INTO RATS 1 HR BEFORE KILLING THE ANIMALS. RNA WAS EXTD. FROM HOMOGENIZED LIVER AND SPLEEN BY A THERMAL PHENOL METHOD IN TEMP. INTERVALS OF 0-10DEGREES, 45-55DEGREES, 45-65DEGREES, AND 55-65DEGREES. THE RADIOACTIVITY OF RNA PREPNS. WAS MEASURED BY LIQ. SCINTILLATION TECHNIQUES. AN ACITVATION OF RNA BIOSYNTHESIS IN THE LIVER AND AN INHIBITION IN THE SPLEEN WERE OBSD. IN THE EARLY STAGES OF ACUTE RADIATION INJURY, ESP. 2 HR AFTER IRRADN.; A TENDENCY TO NORMALIZATION OCCURRED IN THE LATER TIME INTERVALS. FACILITY: NAUCH.-ISSLED. INST. MED. RADIOL., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 669.293.5:621.785(088.8)

PROKOSHKIN, D. A., VASIL'YEVA, Ye. V., TRET'YAKOV, V. I., LUPAKOV, I. S.
"Method of Heat Treatment of Niobium and its Alloys"

USSR Author's Certificate Number 352382, Filed 18/06/71, Published 27/02/73
(Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract No
8I871).

Translation: This method, including annealing, differs in that in order to
increase the elastic properties before annealing cold plastic deformation is
conducted with compression greater than 50%, and annealing is performed at
500-900°. Unalloyed Nb, treated by this method, has an elastic limit of 56
kg/mm².

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- 20 -

USSR

UDC 669.293.126.153

PROKOSHIN, D. A., VASIL'YEVA, YE. V., MARKOVA, S. A., and CHIZHOV, I. N.,
Moscow Higher Technical School imeni N. E. Bauman. Department AM-9

"Investigation of the Effect of Carbon and the Properties of NVLOTZTs Alloys"

Ordzhonikidze, Izvestiya Vysshikh Uchebnykh Zavedeniy--Chernaya Metallurgiya,
No 4, 1973, pp 138-143

Abstract: Nb-W-Ti-Zr alloys, with and without additional alloying of carbon
were produced by electron-beam melting for the purpose of studying the effect
of carbon on these alloys. Chemical composition of the niobium-base alloys was
(in wt %):

	W	Ti	Zr	C	O	N	H
NVLOTZTs	9.82	2.80	1.60	0.04	0.004	0.005	0.001
NVLOTZTsU	9.48	3.25	2.05	0.10	0.008	0.004	0.001

Ingots 120 mm in diameter were subjected to a two-step hot pressing processing
to produce 16-mm diameter rods which were vacuum annealed at temperatures
ranging from 400 to 1800°C for 0.5 hours and then measured for Vickers hardness.
Hardness measurements showed that both alloys become softer with annealing,
reaching a minimum between 1200 and 1400°C with hardness, then rising. Alloy

1/3

USSR

PROKOSHKIN, D. A., et al., Izvestiya Vysshikh Uchebnykh Zavedeniy--Chernaya Metallurgiya, No 4, 1973, pp 138-143

NV10TZTs is harder than the alloy with additional carbon, with the difference in hardness remaining almost constant throughout the range of annealing temperatures. Conversely, alloy NV10TZTsU has a higher hardness than NV10TZTs when the alloys were quenched from 1600°C and aged at 1100°C for 0 to 300 hours with the difference in hardness increasing between the alloys with increased aging time at 1100°C. The best combination of mechanical properties at room temperature for the two alloys was produced for a heat treating mode of quenching from 1600°C + aging at 1100°C for 150 hours with tensile strength, yield strength, elongations and hardness values of 72.8 kg/mm², 66.5 kg/mm², 20%, 230 kg/mm² and 90.0 kg/mm², 67.3 kg/mm², 15%, 285 kg/mm², respectively for NV10TZTs and NV10TZTsU. The long-time strength of alloy NV10TZTs was 28 kg/mm² when quenched from 1600°C which is equal to the American alloy F-48, although the American alloy contains a much larger quantity of tungsten (15%). Thus, heat treatment of the alloys by quenching to the supersaturated solid solution for the given conditions ensures additional strengthening of the alloys and is especially effective for the alloy with additional carbon content. For conditions of long-time stress at 1100°C, precipitation of a finely dispersed

2/3

- 29 -

USSR

PROKOSHKIN, D. A., et al., Izvestiya Vysshikh Uchebnykh Zavedeniy--Chernaya Metallurgiya, No 4, 1973, pp 138-143

strengthening carbide phase occurs from the multicomponent solid solution and prevents the occurrence of shear and diffusion processes. Retarding of the diffusion process of dislocation creep by hard refractory particles of the precipitations leads to increased high-temperature creep strength. 3 figures, 4 tables, 8 bibliographic references.

3/3

USSR

UDC: 669.293.5:539.434

PROKOSHIN, D. A., VASIL'YEVA, Ye. V., TRET'YAKOV, V. I., CHIZHOV, I. N.,
Moscow

"Study of the Heat Resistance of Nb-Mo Alloys, Alloyed with Titanium and Zirconium"

Izvestiya Akademii Nauk SSSR, No 4, Jul-Aug 73, pp 230-235.

Abstract: This work studies the regularities of the influence of titanium and zirconium on the heat resistance of the alloys Nb + 10 wt. % Mo and Nb + 15 wt. % Mo. The titanium was introduced to the alloys in order to improve the technological characteristics and increase oxidation resistance. It was found that the addition of up to 3% titanium to the alloy Nb + 10 % Mo produces almost no change in the stable creep rate; intensive softening is observed as the titanium content is increased to over 3%. The hardening effect of the addition of (1 wt. %) zirconium to Nb + 10 % Mo + Ti depends on the titanium content and appears most clearly with titanium concentrations of not over 3%. An increase in the content of molybdenum to 15% facilitates increasing heat resistance of niobium alloys. The expediency of alloying Nb + 15 % Mo with titanium at 3% is demonstrated, since further increases in titanium

1/2

- 83 -

USSR

Prokoshkin, D. A., Vasil'yeva, Ye. V., Tret'yakov, V. I., Chizhov, I. N.,
Izvestiya Akademii Nauk SSSR, No 4, Jul-Aug 73, pp 230-235.

content cause significant reduction of the heat resistance. Additional
hardening of Nb + 15 % Mo + 3 % Ti can be achieved by the addition of 1%
zirconium. The alloys produced have good technological properties and can
be recommended for use as structural materials to operate at 1100° C and
higher.

2/2

Materials

USSR

UDC: 621.78

PROKOSHKIN, D. A., VASIL'YEVA, Ye. V., MARKOVA, S. A., CHIZHOV, I. N.

"Influence of Heat Treatment on High-Temperature Strength and Creep of NV10M5TZTs Niobium Alloy"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Mashinostroyeniye, No 11, 1972, pp 121-124.

Abstract: An alloy was studied with the following chemical composition (wt. %): 9.4% W, 5.98% Mo, 2.75% Ti, 1.65% Zr, impurity contents 0.05% C, 0.02% N, 0.02% O, 0.001% H. The short-term strength and creep of this alloy were studied at 1100°C. The influence of heat treatment on the characteristics of high temperature strength and heat resistance of the alloy was studied. It was shown that hardening from 1700°C is an effective means of strengthening the alloy at high temperatures. High heat resistance of the alloy is achieved as a result of formation of a multicomponent solid solution with high interatomic bond strength and separation of the dispersed refractory carbide phase during long service at 1100°C.

1/1

USSR

Immunology

UDC 616.24-003.668.4-092:616-097.3

ALEKSEYEVA, O. G., and VASIL'YEVA, YE. V., Institute of Industrial Hygiene and Occupational Disease, Academy of Sciences USSR

"Immunopathological Concept of the Pathogenesis of Berylliosis"

Moscow, Gigyena Truda i Professional'nyye Zabolevaniya, No 5, 1972, pp 23-36

Abstract: From studies on immunological processes in rats with experimentally induced berylliosis and a review of the literature, the authors conclude that immune and exogenous allergic reactions are the dominant features in the pathogenesis of the disease. The autoimmune nature of the process accounts for the systemic and wavelike course of the disease and for the efficacy of glucocorticoid therapy. A predisposition to autoimmunity apparently gives rise to the granulomatous form of the disease and shortens the latent period (hence the inverse relationship between the duration of the latent period and the severity of the disease). Berylliosis may be provoked by chronic disease of the lungs or other organs, pregnancy, surgery, or thyrotoxicosis. All these factors stimulate antibody production. If, however, these factors are absent, the allergy to beryllium develops slowly and the autoimmune process is either absent or insignificant. In this case the latent

USSR

ALEKSEYEVA, O. G., and VASIL'YEVA, YE. V., Gigyena Truda i Professional'nyye
Zabolevaniya, No 5, 1972, pp 23-36

period is prolonged and the result is a slowly progressing interstitial
form of the disease. The latter can theoretically be prevented by prophylactic
immunization with beryllium. (The low incidence of beryllicosis among
industrial workers may be due less to individual sensitivity to the element
than to the development of tolerance for it).

2/2

- 28 -

USSR

UDC 616.24-003.668.4-092.9-07:616.24-008.539.633

VASIL'YEVA, Ye. V., Immunology Laboratory, Institute of Labor Hygiene and Occupational Diseases, Academy of Medical Sciences USSR, Moscow

"Gel Filtration Study of the Nucleoprotein Fraction of Lung Tissue in Experimental Berylliosis"

Moscow, Voprosy Meditsinskoy Khimii, No 4, 1971, pp 361-363

Abstract: The nucleoprotein fraction of lung tissue in rats with experimental berylliosis has been found to contain proteins with new antigenic properties. To obtain them in more concentrated form and with minimum ballast proteins, the original fraction was separated by molecular weights on Sephadexes G-200, G-100, and G-75. Fractionation on Sephadexes G-200 and G-100 did not result in good separation of proteins from either experimental or intact animals. Separation of the nucleoprotein fraction on Sephadex G-75, however, produced two peaks in the region of molecular weights from 3,000 to 70,000 and a large fraction of peptides with a molecular weight of about 3,000, which was completely absent in the tissue of controls but has been found in the corresponding fraction of lung tissue in rats with experimental silicosis.

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USSR

UDC 669.293.5

PROKOSHCHIN, D. A., VASIL'YEVA, YE. V., and MARKOVA, S. A., Moscow

"Influence of Alloying With Small Quantities of Titanium and Zirconium on the Properties of Niobium"

Moscow, IAN SSSR, Metally, No 2, Mar-Apr 71, pp 130-135

Abstract: Results are presented from an investigation of the influence of elements of group IVA -- titanium and zirconium -- on the structure, hardness, mechanical properties, and creep of niobium. Both components differ from niobium in a number of physical and chemical characteristics, which influences the interatomic bond, fine structure, and rupture mechanism of the metal. Studies were performed for niobium alloys containing from 1 to 6 at. % Ti and from 0.5 to 5 at. % Zr after extrusion and after annealing. The microstructure, hardness, and mechanical properties of the alloys were studied at room temperature, and the creep was studied by extension at 1100°C at stresses of from 8 to 20 kg/mm². The alloying elements are distributed differently in the structure of the niobium. The zirconium is distributed unevenly, with primary concentration on the grain boundaries, while

USSR

PROKOSHIN, D. A., et al., IAN SSSR, Metally, No 2, Mar-Apr 71,
pp 130-135

the titanium is distributed evenly through the grains. A significant increase in hardness and mechanical characteristics is produced at room temperature by alloying with titanium and zirconium. Alloying with small quantities of titanium and zirconium also increases the creep resistance significantly. As the content of alloying elements is increased to 5-6 at. %, the mechanisms increasing hardness are covered by the transition to the state of a normal solid solution.

2/2

- 73 -

USSR

UDC 616.24-003.668.4-092.9-07:616.15-008.9-097.3-078

VASILYEVA, YE. V., Institute of Labor Hygiene and Occupational Diseases,
Academy of Medical Sciences USSR, Moscow

"An Auto-Immune Process Against Cardiac Tissue in Experimental Berylliosis"

Moscow, Gigiyena truda i professionalnyye zabolevaniya, No 3, Mar 71, pp 54-55

Abstract: Cardiac-pulmonary insufficiency is an early sign of chronic berylliosis, which had been attributed to effects of an antigen-antibody complex on cardiac tissue. Experiments were conducted with August rats weighing 100-120 g to determine whether an auto-immune process does take place. BeO was introduced intratracheally in the form of a finely dispersed powder in 1 ml physiological solution. The nucleoprotein fraction was obtained (1 month after BeO introduction) from animals lungs, and the proteins were used to obtain immune antisera. Homogenates from heart, liver, kidney, and spleen were included in the study. It was found that tissue antigens were present in the cardiac extract from healthy rats as well as in the lungs of rats with experimental berylliosis. Most of the sera obtained from rats with berylliosis contained auto-antibodies to cardiac-pulmonary antigen in relatively high titers (Ht 2-2.9), whereas the blood sera from healthy animals and from animals with experimental silicosis contained antibodies

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USSR

VASILYEVA, YE. V., Gigiyena truda i professionalnyye zabolevaniya, No 3,
Mar 71, pp 54-55

in only a few cases. Consequently, the observed self-immunization effect is specific for berylliosis. Apparently the auto-antibodies, which constitutes an antigen-antibody complex, produce pathological, dystrophic changes in cardiac tissue. It is proposed that beryllium, interfering with protein synthesis, leads to the formation of a new protein, which interacts with the original protein.

2/2

- 62 -

1/2 013
UNCLASSIFIED
PROCESSING DATE--04DEC70
TITLE--EFFECT OF COBALT ON NITRATE REDUCTASE ACTIVITY IN LEGUMES -U-
AUTHOR--(04)-YAGODIN, B.A., OVCHARENKO, G.A., VASILYEVA, YU.V., IVANOVA,
H.A.
COUNTRY OF INFO--USSR
SOURCE--SEL SKOKHOZ. BIOL. 1970, 5(1), 134-6
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--LEGUME CROP, NITRATE, ENZYME ACTIVITY, COBALT COMPOUND, PLANT
PHYSIOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3007/2012

STEP NO--UR/9062/70/005/001/0134/0136

CIRC ACCESSION NO--AP0137187

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--04DEC70

2/2 013
CIRC ACCESSION NO--AP0137187
ABSTRACT/EXTRACT--(U) GP-Q- ABSTRACT. COBALT STIMULATES THE NITRATE
REDUCTASE ACTIVITY IN THE LEAVES AND NODULES OF LEGUMES. APPLICATION OF
TOXIC AMTS. CAUSES CHLOROSIS AND A DECREASE IN ENZYMIC ACTIVITY. CO
APPEARS TO ACT AS AN ACTIVATOR FOR NITRATE REDUCTASE. FACILITY:
INST. FIZIOL. RAST. IM. TIMIRYAZEVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 621.315.3

VASIL'YEVA, Z. A., ANDRIANOVA, I. V., VLADIMIROV, Ye. A.

"An Effective Method of Removing Enamel Insulation From Microwires"

Elektron. tekhnika. Nauchno-tekhn. sb. Radiokomponenty (Electronic Technology. Scientific and Technical Collection. Radio Components), 1970, vyp. 1, pp 150-152 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5V414)

Translation: The proposed method of chemically heat treating enamel insulation guarantees complete removal without mechanical and chemical damage to the microwire filament. The method is distinguished by rapidity of cleaning and by such a clean surface that soldering quality is improved and thermo-compression welding can be used instead of soldering. Group cleaning is possible. The cleaning process can be mechanized. Resumé.

1/2 011 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--PREPARATION OF THE THIOAMIDE OF DIMETHYLGLYCINE -U-
AUTHOR-(02)-VASILYEVA, Z.A., PETRUNKIN, V.YE.
COUNTRY OF INFO--USSR
SOURCE--ZH. ORG. KHIM. 1970, 6(4), 882-3
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--AMMONIA, HYDROGEN SULFIDE, ORGANIC NITRILE, AMIDE, GLYCINE,
ORGANIC SYNTHESIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3001/0709 STEP NO--UR/0366/70/006/004/0882/0883
CIRC ACCESSION NO--AP0126421
UNCLASSIFIED

2/2 011
CIRC ACCESSION NO--AP0126421
ABSTRACT/EXTRACT--(U) GP-0-
THROUGH A COLD SOLN. OF ME SUB2 NCH SUB2 CN IN ALC. GAVE 56PERCENT ME
SUB2 NCH SUB2 CSNH SUB2 (I). THE HCL, HBR, AND OXALATE SALTS OF I WERE
ALSO PREPD.
FACILITY: VSES. INST. GIG. TOKSIKOL. PESTITS.
POLIM. PLAST. MASS, KIEV, USSR.

PROCESSING DATE--27NOV70

UNCLASSIFIED

UNCLASSIFIED

Acc. Nr.: AM0105463

Ref. Code: UR0000

Zhukov, G. P.; Vasilevskaya, E. G.; Lukin, M. I.

Legal Aspects in Utilization of Artificial Satellites for Purposes of Meteorology and Radio Communication (Pravovyye aspekty ispol'zovaniya iskusstvennykh sputnikov dlya tseley meteorologii i radiosvyazi) Moscow, Nauka, 1970, 170 pp (SL:2035)

TABLE OF CONTENTS:

Introduction	International Regulation of Outer-Space Activities of Countries	5
Chapter I	Legal Problems of Space Meteorology and International Cooperation	15
II		65
III	Use of Satellites for Radio Communication	103
Conclusion		166

1/2

REEL/FRA
19880460

12

Acc. Nr.: AM 0105463

The book deals with international problems encountered in connection with scientific and technological progress in the use of satellites for purposes of meteorology and radio communication...

The authors analyze problems in distribution of radio frequencies for space services, determine international principles in development and operation of long-distance radio communication systems by means of satellites, and the legal status of individual components of these systems - satellites, ground installations and stations.

8

2/2

Reel/Frame

19880461

USSR

UDC [537.226+537.311.33]:[537+535]

VERZHBITSKIY, F. R., VASILEVSKAYA, M. M., BUROV, G. V., and SMIRNOV, M. V.

"High-Frequency Noncontact Study of Temperature Dependence of Electrical Properties of Ionic Crystals"

Tr. In-ta elektrokhimii. Ural'sk. nauch. tsentr AN SSSR (Works of Electrochemistry Institute, Ural Scientific Center of Academy of Sciences USSR), 1971, vyp. 17, pp 7-10 (from RZh-Fizika, No 1, Jan 72, Abstract No 1YE1226 from summary)

Translation: The authors study the electrical properties of NaCl, KCl, CsCl, KBr, and KI crystals by the noncontact HF method. It is established that on the curve for the temperature dependence of the tangent of the angle of dielectric loss in the crystals studied there is a maximum near the melting points. In the case of CsCl a maximum is found also in the region of polymorphous $\alpha \rightarrow \beta$ transformation at 475° C. The presence of a maximum on the $\tan \delta$ curve is due to mutually opposed processes: an increase in the concentration of defects and a decrease in their mobility. The $\tan \delta$ temperature dependence can be regarded as characteristic of temperature variations in the structure of ionic crystals.

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USSR

UDC 536.421.4+536.421.1

SMIRNOV, M. V., VASILEVSKAYA, M. M., and BUROV, G. V.

"Investigating the Structure and Characteristics of Ionic Crystals Near the Melting Point"

V sb. Kristallizatsiya i faz. prevrashcheniya (Crystallization and Phase Transformations--collection of works) Minsk, "Nauka i tekhn." 1971, pp 27-33 (from RZh-Fizika, No. 9, 1971, Abstract No. 9E372)

Translation: The results are given of an investigation into the change in volume, the lattice parameter, and the structure of NaCl and KCl crystals. It is established that the relative thermal expansion of these crystals increases sharply before the melting point, reaching 14-15%. Roentgenographic and pycnometric data on the relative expansion permitted the conclusion that at high temperatures, the formation of Frenkel defects may be prevalent in Na and K chlorides. New reflection planes in NaCl and KCl crystals at temperatures beyond 5-15° until their melting points are caused by the ordered arrangement of cations introduced into the internodes in the matrix of the fundamental lattices, satisfactorily described by two tetragonal lattices. The assumption is made that the groupings which occur at high temperatures in the crystal, surrounding its four anions, go into the melt to form the quasi-complexes NaCl_4^{2-} . Author's abstract

1/1

Acc. Nr.

AP0041533

Abstracting Service:

CHEMICAL ABST.

4/70

Ref. Code

UR 0366

89960v Reaction of polyfluoro-substituted aromatic ketones with potassium cyanide. Vasil'yevskaya, T. N.; Badashkeeva, A. G.; Gerasimova, T. N.; Barkhash, V. A.; Vorozhtsov, N. N., Jr. (Novosibirsk. Inst. Org. Khim., Novosibirsk, USSR). *Zh. Org. Khim.* 1970, 6(1), 126-32 (Russ). The vigorous reaction of $(C_6F_5)_2CO$ with KCN in abs. EtOH at 20° gave C_6F_5H , 2,3,5,6-F₄C₆H₂CN (I), $C_6F_5CO_2Et$ (II), 2,3,5,6,4-F₄(EtO)C₆CO₂Et (III), and 2,3,5,6,7-F₅(EtO)C₆CO₂F₃ (IV). The compds. were sepd. by gas chromatog. and identified by NMR. The reaction of II with EtONa gave III. Refluxing C_6F_5Br with EtONa in EtOH gave 2,3,5,6,4-F₄(EtO)C₆Br (V) which was converted to its Grignard compd. and reacted with C_6F_5CHO to give 2,3,5,6,4-F₄(EtO)C₆CH(OH)C₆F₅, which on oxidn. with CrO₂ gave IV. The reaction of C_6F_5COPh with KCN in EtOH at 75° gave C_6F_5H , I, and 2,3,5,6,4-F₄(EtO)C₆COPh (VI). Reacting V with Mg and PhCHO in abs. Et₂O gave 2,3,5,6,4-F₄(EtO)-C₆CH(OH)Ph which was oxidized to VI. The reaction of C_6F_5COMe with KCN in EtOH at 60-70° gave C_6F_5H , I, AcOEt, 2,3,5,6-F₄C₆HC(:NH)OEt (VII), 3,5,6,2-F₄(EtO)C₆H₂CN, and 2,3,5,6,4-F₄(EtO)C₆COMe (VIII). Treating V with Mg and Ac₂O gave VIII. The treatment of VII with HCl in Et₂O gave 2,3,5,6-F₄C₆HCONH₂.

CPJR

REEL/FRAME
19751401

USSR

UDC 577.391:547.476

GROZDOV, S. P., BEZIN, G. I., KENDYSH, I. N., KIR'YANOV, I. Yu., and
VASIL'YEVSKAYA, V. V., Institute of Biophysics, Ministry of Health USSR,
Moscow

"Mechanism of the Physiological Action and of the Radiation-Protective
Effect of Dimethylsulfoxide"

Moscow, Radiobiologiya, Vol 11, No 4, Jul/Aug 71, pp 522-527

Abstract: Dimethylsulfoxide (DMSO), on being administered intraperitoneally to rats in the form of a 50% aqueous solution in a dose of 5.4 g/kg before irradiation of the animals with gamma-rays in a dose of 900 r, exerted a pronounced radiation-protective effect, which was considerably enhanced by the administration of ATP. DMSO reduced the action of corticosteroids on tissues, although it increased their secretion in the organism. Reduction of the utilization of O_2 , inhibition of glycolysis, and other effects indicated inhibition of metabolic processes in lymphoid tissues (the spleen and thymus) under the action of DMSO. As distinguished from other radiation protectors, DMSO did not produce hypoxia, increase the content of SH groups, or lower the redox potential in tissues. Differences between the mechanism of action of DMSO and that of aminothiols explain the enhancement of the

SSR

GROZDOV, S. P., et al., Radiobiologiya, Vol 11, No 4, Jul/Aug 71, pp 522-527

radiation-protective effect upon their joint application. As indicated by the results of the experiments with ATP, this enhancement will presumably also be observed on joint administration of DMSO with other substances which, similarly to aminothiols, displace the redox balance of the organism towards reduction.

2/2

- 20 -

USSR

UDC 535.231.2:551.521.463.5

RVACHEV, V. P., DOVZHENKO, F. P., VASILEVSKIY, L. S.
"Brightness Distribution in Atmosphere Model With Continuous and
Broken Cloudiness"

Tomsk, Izvestiya VUZ -- Fizika, No 1, 1972, pp 34-42

Abstract: The study of angular and depth distribution of brightness in light-scattering media is important in atmospheric and marine optics, synoptics, and the spectroscopy of light-scattering media. The present article describes experiments performed to determine an adequate model for such a study and a physical model of the field of radiation inside the light-dispersing medium at an arbitrary optical depth, with minimal distortion introduced by the measuring equipment. The authors find that their modeling method can be used for creating experimental situations required for the solution of a broad range of optical and spectroscopic problems in this area. Through it, horizontal nonuniformities and vertically stratified media can be modeled, an achievement not hitherto attained. The authors are associated with the Odessa Engineering-Construction Institute.

1/1

USSR

UDC 612.825.014.3

VASILEVSKIY, N. N., TRUBACHEV, V. V., SUVOROV, N. B., Institute of Experimental Medicine, Academy of Sciences USSR, Leningrad

"Changes in Cortical Unit Impulse Activity During Selective Reinforcement of Chosen Interspike Interval Range"

Kiev, Neyrofiziologiya, Vol 4, No 4, Jul/Aug 72, pp 339-348

Abstract: The effect of selective automated reinforcement of either short or long interspike intervals in the somatosensory cortex was studied in thirty six adult curarized adult rabbits. Recordings were performed extracellularly using glass microelectrodes. Reinforcement was with painful stimuli using fine bipolar microelectrodes. The stimulators were operated automatically, the criterion for discharge being that the interspike interval lie in a given range.

It was observed that when short intervals were reinforced a decrease in average firing rate and an increase in the probability of the occurrence of long intervals immediately following short ones occurred. When long intervals were reinforced the mean frequency of discharge increased and the number of long intervals decreased for one group of cortical neurons. For another group of cortical neurons though, a decrease in the number of long intervals occurred and the mean discharge frequency decreased. The reorganization of impulse activity tended to reduce the number of intervals reinforced by

1/2

- 70 -

USSR

VASILEVSKIY, N. N., et al., Neyrofiziologiya, Vol 4, No 4, Jul/Aug 72,
pp 339-348
painful stimuli.

A discussion is given of the role of temporal interaction (synchronization) of ascending activating influences and their interaction with the excitatory and inhibitory phases in reciprocally interacting neuronal populations in the reorganization of impulse activity.

2/2

USSR

UDC: 51:330.115

VASTILEVSKIY, P. L., MEDVEDEV, P. A.

"The Problem of Determining the Optimum Parametric Series of Excavators"

V sb. Modelir. ekon. protsessov (Modeling Economic Processes--collection of works), Moscow, Moscow University, 1971, pp 515-533 (from RZh-Kibernetika, No 11, Nov 71, Abstract No 11V771)

Translation: The authors consider a set of jobs characterized by intensity and concentration, i. e. by a quantity of soil which must be excavated between construction operations. There is a series of standard-size machines characterized by intensity, operational expenditures per cubic meter of soil, retooling time, retooling cost, and the function of expenditures $\phi(x)$ for putting out a line of length x , $\phi(x)$ are monotonic concave. An algorithm is given for solving the problem of minimizing all expenditures for carrying out predetermined jobs. D. Epshteyn.

1/1

1/2 015
UNCLASSIFIED
PROCESSING DATE--20NOV70
TITLE--MODIFIED STEROIDS. V. PMR SPECTRA OF SOLASODANE DERIVATIVES -U-
AUTHOR--(05)--YERYEV, V.P., TOLSTIKOV, G.A., VASILYUK, S.M., ROMACHENKO,
G.N., GORYAYEV, M.I.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK KAZ. SSR, SER. KHIM. 1970, 20(2), 33-9
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY
TOPIC TAGS--HORMONE, PROTON RESONANCE, PROTON SPECTRUM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/0760
CIRC ACCESSION NO--AP0131355
STEP NO--UR/0360/70/020/002/0033/0039
UNCLASSIFIED

USSR

UDC 669.018.58:621.7.044

POVOLOTSKIY, Ye. G., VASIN, G. P., VLASKINA, K. I., and BELOLIPTSEVA, G. G.,
Saratov Polytechnic Institute

"Nature of Extremal Magnetic Property Change in Ticonal Alloys After Iso-
thermal Thermomagnetic Treatment"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 1, Jan 73,
pp 69-71

Abstract: The nature of the change in the magnetic properties of highly
coercive alloys of the ticonal type -- residual induction B_r , coercive
force H_c , and maximum magnetic energy BH_{max} -- was studied since for the
extreme case these properties depend on the temperature of isothermal
thermomagnetic treatment (ITMT). The average composition of five alloys
studied was (in%): 38 Co, 13.0 Ni, 7.5 Al, 6.5 Ti, 3.0 Cu and 1.05 FeS.
It was assumed that the nature of this phenomenon should be associated with
the features of the kinetics and morphology occurring in these alloys for
dispersion β_2 -- $\beta_1 + \beta_2$ decomposition for different modes of ITMT.
The kinetics of dispersion decomposition of ticonal alloys during isothermal
treatment without a magnetic field or ITMT is characterized by C-shape
diagrams with a very short incubation period (15-45 minutes). The extremal
relationship of ticonal magnetic properties to temperature of isothermal
1/2

272 015

UNCLASSIFIED

PROCESSING DATE--20NOV73

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203510001-7
CIRC. ACCESSION NO. 10012355 ABSTRACT. SIGNALS OF ME GROUPS 5 ALPHA AND 5
ABSTRACT/EXTRACT--(U) GP-C- ABSTRACT. THE RULE OF
BETA SCLASODANES WERE LOCATED IN THEIR PMR SPECTRA. THE RULE OF
ADDITIVITY OF CHEM. SHIFTS OF ANGULAR ME GROUPS HOLDS IN THIS CLASS OF
COMPS. AS IN THE CASE OF ANDROSTANES. FACILITY: INST. KHIM.
NAUK, ALFA-ATA, USSR.

UNCLASSIFIED

USSR

POVOLOTSKIY, Ye. G., et al., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 1, Jan 73, pp 69-71

treatment without a magnetic field or ITMT has been associated with the formation of an intermediate form close to the barform structure of decomposition. 3 figures, 2 tables, 3 bibliographic references.

2/2

- 67 -

USSR

UDC: 621.396.69:621.372.412(088.8)

POZDNYAKOV, P. G., VASIN, I. G., BANKOV, V. N.

"A Quartz Torsional Resonator"

USSR Author's Certificate No 253162, Filed 17 Apr 68, Published 24 Feb 70 (from
RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10V389 P)

Translation: This Author's Certificate introduces a quartz torsional resonator with a piezoelectric element made in the form of a rod of rectangular cross section with open slots. As a distinguishing feature of the patent, the resonator is designed so that the resonance frequency is lowered and the overall dimensions are reduced without impairing the temperature coefficient of frequency. The slots located on one half of the rod are arranged perpendicularly to the slots located on the other half, the number of slots on one half being equal to that on the other.

USSR

UDC 621.398.53.087.62

VASIN, G. S., Engineer

"On the Problem of Designing Tape-Transport Mechanisms for Memory Devices in Control and Telemetry Equipment"

Moscow, Pribery i Sistemy Upravleniya, No 6, Jun 71, p 33

Abstract: The article is based on materials from the book "Osnovy mekhaniki gibkoy niti" (Principles of Flexible-Filament Mechanics) by V. S. Shchedrov, Moscow, "Mashgiz," 1961. The author analyzes expressions which define the principal factors determining tension on the magnetic tape in a tape-transport mechanism in control and telemetering equipment. An equation is presented which can be used to determine the tape tension as a function of the structural parameters of the reel and the parameters of tape motion, as well as the change in shape and size of the reel as a result of external factors and changes in tape motion. The equation was experimentally checked on a tape-transport mechanism with a 30-meter long tape under start-stop conditions. Mechanical and climatic factors were varied as well as structural parameters. The result was a memory device which operates reliably under severe mechanical and climatic conditions.

1/1

1/2 026 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--OB RETURNS TO LENINGRAD WITH 250 METER ICE CORE. ICE FROM THE
ANTARCTIC -U-
AUTHOR--VASIN, M.
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, PRAVDA. 11 JUNE 1970, P 6
DATE PUBLISHED--11JUN70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, BIOLOGICAL AND MEDICAL
SCIENCES, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--ICE, GLACIOLOGY, HYDROMETEROROLOGY, MICROBIOLOGY, COSMIC DUST,
VOLCANIC ASH, SPORE, DRILLING MACHINE/(U)OB CARGO SHIP

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY KEEL/FAME--3004/1719

STEP NO--UR/9012/70/000/000/0006/0006

CIRC ACCESSION NO--AN0131985

UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AN0131985

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. A VALUABLE CARGO, 50 BOXES OF ICE, HAS BEEN DELIVERED TO THE ARCTIC AND ANTARCTIC SCIENTIFIC RESEARCH INSTITUTE IN A SPECIAL REFRIGERATOR ON BOARD THE DIESEL ELECTRIC SHIP "OBI". THIS IS THE RESULT OF INTENSIVE EFFORTS ON THE PART OF THE DRILLING GROUP OF THE 14TH SOVIET ANTARCTIC EXPEDITION. IN TESTING A NEW THERMAL CORING DEVICE (TEPLOVOY SNARYAD) DEVELOPED IN THE DEPARTMENT OF WELL DRILLING TECHNOLOGY AND ENGINEERING OF THE LENINGRAD MINING INSTITUTE, THE GROUP "PUNCHED THROUGH" THE ICE IN THE REGION OF MIRNYY OBSERVATORY AND REMOVED A 250 METER CORE. THIS ICE COLUMN, IN WHICH ARE "PRESERVED" VOLCANIC ASH, COSMIC DUST, ANCIENT AIR BUBBLES AND, POSSIBLY, SPORES AND BACTERIA, IS OF GREAT INTEREST TO GLACIOLOGISTS, HYDROMETEOROLOGISTS AND MICROBIOLOGISTS.

UNCLASSIFIED

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AUTHOR--VASIN, M. ✓
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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHOR GIVES THE ACCOUNT OF HIS VISIT TO THE LENINGRAD OPTICAL MECHANICAL CORPORATION WHICH MANUFACTURES LASERS. THE CORPORATION GETS ASSISTANCE FROM THE STATE OPTICAL INSTITUTE WHICH IS LOCATED ALSO IN LENINGRAD. THE CORPORATION PRODUCED OR CONTINUES TO PRODUCE THE FOLLOWING MODELS, (1) "GOR-02", THE FIRST COMMERCIAL MODEL WEIGHING 6 KGS. (2) "GOR-100", A RESEARCH RUBY MODEL. (3) "GOS-1000", A THOUSAND JOULES MODEL WEIGHING ONE TON WITH A CENTIMETER GLASS ROD. (4) "MSL-2", LASER INTENDED FOR MICROSPECTRAL ANALYSIS. THE MICROSCOPE IS MOUNTED ON THE SAME FRAME WITH THE LASER.

UNCLASSIFIED

USSR

UDC 577.391:547.436

VASIN, M. V., DAVYDOV, B. I., and ANTIPOV, V. V.

"Comparative Elimination of the Radiation-Protective and Toxic Action of Cystamine"

Moscow, Radiobiologiya, Vol 11, No 4, Jul/Aug 71, pp 517-521

Abstract: On the basis of data obtained in experiments on mice, a comparative evaluation of the reduction of the radiation-protective and toxic effects of cystamine in connection with the elimination of this drug was carried out. Methods described by B. I. Davydov in the book Problemy Kosmicheskoy Biologii (Problems of Space Biology), Vol 14, p 137, 1971, were applied. T_{50} of cystamine on irradiation with gamma-rays in a dose of 900 r at a dosage rate of 139 r/min was 0.8 hr on the basis of its radiation-protective effect while it was 1.8 and 2.3 hrs in regard to its toxic action on non-irradiated and irradiated animals respectively. Elimination of S^{35} from the spleen, liver, and entire body of the experimental animals on intraperitoneal administration of ^{35}S -cystamine (= S^{35} -cysteamine) in a dose of 150 mg/kg did not correspond to the reduction in the radiation-protective or toxic effect. While during the first hour after administration there was a close correlation between the protective effect of cystamine and its concentration in

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USSR

VASIN, M. V., et al., Radiobiologiya, Vol 11, No 4, Jul/Aug 71, pp 517-521

organs sensitive to radiation, this correlation became less pronounced during the following 4 hrs. Although during the first hour the concentration of S^{35} -cystamine = S^{35} -cysteamine in radiation-sensitive organs dropped to 55.3-66.0% of the initial level, the toxic action during this time remained practically unchanged. This can be explained in part by the formation from cystamine of products that were more toxic than the parent substance. After the first hour the reduction of the toxic action corresponded more closely to the elimination of S^{35} .

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- 21 -

USSR

UDC 577.1:615.7/9

ANTIPOV, V. V., VASIN, M. V., DAVYDOV, B. I., SAKSONOV, P. P., and SMIRNOVA, N. V.

"Sensitivity of Mice to Radioprotectors From the Amino Thiol and Indolyl Alkyl Amine Series During the Aftereffect of Transverse Overloads"

V sb. Probl. kosmich. biol. (Problems in Space Biology -- Collection of Works), Vol 14, Moscow, "Nauka" (Science), 1971, pp 53-57 (Russian) (from RZh-Biologicheskaya Khimiya, No 20, 25 Oct 71, Abstract No 20F1713 from summary)

Translation: Mice were subjected to the action of overloads (centrifugation; 10 and 30 units 15 minutes, 40 units 10 minutes), and cystamine dihydrochloride (I; 180-350 mg/kg), S, β -aminoethylisothiuronium bromide (AET; 160-220 mg/kg), 5-methoxytryptamine (II; 180-240 mg/kg) or monosodium salt of β -aminoethylthiophosphoric (III; cystaphos; 800-1200 mg/kg) was injected intraperitoneally five minutes to 24 hours later. A slight increase in resistance to the amino thiols (I, III) was noted immediately after centrifugation, and a reliable increase in sensitivity to I and AET in 30 minutes; the reaction of the animals returned to normal in one hour. II, administered one day after overload, raised the animals' resistance. The animals' resistance to I rose with an increase in the intensity of the overloads.

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USSR

UDC 612.826.1:612.825.014.42

MAYORCHIK, V. Ye., VASIN, N. Ya., and IL'INSKIY, I. A., N. N. Burdenko
Institute of Neurosurgery, Academy of Medical Sciences USSR, Moscow

"Role of Specific and Nonspecific Thalamic Nuclei in the Origin of Some
Slow Rhythms in the Human Electroencephalogram"

Kiev, Neyrofiziologiya, No 3, May/Jun 73, pp 227-235

Abstract: The authors developed a technique for electroencephalographic recording of trace reactions of the cortex to electrostimulation of nuclei of the optic thalamus and limbic structures and applied it to 42 patients operated for hyperkinesia, intractable pain, and continuous epilepsy. After discharge cortical activity following stimulation of the ventral-oral nuclei and centrum medianum of the thalamus and amygdaloid nucleus was found to differ in distribution of trace synchronization of the slow rhythms, duration of bursts of trace activity, and intensity of the accompanying autonomic reactions. Electrostimulation of the ventral-oral nuclei during the aftereffect period resulted in relatively local trace synchronization of the slow rhythms in the premotor electroencephalogram on the side stimulated. Cessation of stimulation of the central medianum, in contrast to
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USSR

MAYORCHIK, V. Ye., et al., Neyrofiziologiya, No 3, May/Jun 73, pp 227-235

the ventral-oral nuclei, caused bilateral synchronization of the slow rhythms that sometimes coincided with the onset of bradypnea, bradycardia, and vaso- and pilomotor reactions. Stimulation of the amygdaloid nucleus elicited the most pronounced autonomic reactions combined with prolonged bursts of trace hypersynchronization of the slow oscillations or epileptogenic discharges.

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USSR

UDC 616.8-009.12-089:616.831-089.12-07:616.831.375-008.6-07

VASIN, N. Ya., GURFINKEL', V. S., IL'INSKIY, I. A., and SAFRONOV, V. A., Scientific Research Institute of Neurosurgery imeni N. N. Burdenko, Academy of Medical Sciences USSR, Moscow

"Capsular Effects During Electrostimulation of the Ventrolateral Nucleus of the Optic Thalamus in Stereotaxic Operations for Hyperkinesias"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, Vol 70, No 9, Sep 70, pp 3-6

Abstract: During surgery of the optic thalamus necessitated by various hyperkinesias, determination of the lateral limits of the ventrolateral nucleus is connected with differentiation of motor reactions occurring during stimulation of the ventrolateral nucleus itself, as well as with reactions resulting from stimulation of the internal capsule. Several methods of registering motor reactions have been used, including electromyography and tremoregraphy. Data are presented on mechanographic and myographic analysis of capsular effects obtained during electrostimulation of the ventrolateral nucleus of the optic thalamus in 32 patients subjected to stereotaxic operations. The operations were conducted under local anesthesia. A needle electrode inserted at a right angle to a depth of 7 mm was used for stimulation. The electrode was moved circularly in 45°

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USSR

VASIN, N. Ya., et al, Byulleten' Eksperimental'noy Biologii i Meditsiny, Vol 70, No 9, Sep 70, pp 3-6

intervals. The ventrolateral nucleus was stimulated at three levels 3 mm apart. On the basis of the duration of the motor-reaction latent periods it was possible to differentiate capsular responses connected with current loops at the electrode terminals in the central regions of the ventrolateral nucleus from reactions associated with direct stimulation of the internal capsule. Simultaneous mechanographic and myographic registration of the motor reactions from different limbs may also be used, together with other physiological tests, for defining the anteroposterior localization of the electrode terminal in the ventrolateral nucleus.

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XVI-11. HETEROEPITAXY OF GERANIUM ON GALLIUM ARSENIDE WITH VACUUM CONDENSATION

Article by A. L. Asseyev, D. I. Vashin, Yu. N. Golobokov, Ye. A. Krivonozov, S. I. Sludskii, V. N. Shumakov, Novosibirsk, *Izv. Sibirskogo nauchn. tsentra Akad. Nauk SSSR, Seriya Fiziko-Matematicheskie Nauki*, 1972, No. 1, p. 239.

Thin-film films on a rolling-assisted substrate were manufactured by condensation in a vacuum of 10⁻⁷-10⁻⁸ torr. The deposition rate was 10-20 Å/min. The substrate temperature varied in the range of 250-600° C and the substrate orientation was (110). The surface structure of the films and the substrate was estimated by the method of electron diffraction in reflection, and the effectiveness of the germanium layer directly adjacent to the film-substrate junction was studied by a transmission electron microscope.

With an increase in the substrate temperature (T_s), the structure is transformed from polycrystalline ($T_s = 320-460^\circ\text{C}$) to amorphous/nanocrystalline ($T_s > 460^\circ\text{C}$). The basic type of defect in the heteroepitaxial p-nitrogen films was the stacking defects located in the inclined (111) planes and the microspines both with inclined and normal twinning planes [11]. The most perfect heteroepitaxy was obtained in the temperature range of $T_s = 540-560^\circ\text{C}$ where the inclined defects are absent. The electron diffraction and electrochemical method demonstrated that, up to a temperature of 600°C , no noticeable dissociation of the palladium anode takes place. The variations in the defectiveness of the boundary layers of Co (nitrogen twinning and the formation of stacking defects at $T_s = 400-520$ and $530-600^\circ\text{C}$) agree with the variations in the electrochemical properties of the heterojunctions.

The mechanisms of the formation of the structure of the heterojunctions of germanium and gallium arsenide during vacuum deposition are analyzed in this paper.